What You Should Know
Hands-On Test Report
Panasonic KX-MB3020

WHAT IT IS – Panasonic System Networks Company of America's KX-MB3020 is an A4 desktop multifunctional peripheral (MFP) that incorporates monochrome network print, copy, Super Group 3 walkup, PC fax, and color scan, and utilizes laser-imaging technology. Along with its rated print speed of up to 35 ppm, these capabilities make the system very suitable for use in small and mid-size offices and workgroups (SMB).

What sets the KX-MB3020 apart from much of its competition (the under-$500 MFP category) are features that are often optional on competitive systems. These include:

- Standard Ethernet networking (10Base-T/100Base-TX network interface).
- Standard automatic duplexing.
- Rated print speed of up to 35 ppm (at up 2,400 x 1,200 dpi enhanced resolution). In contrast, competitors in this segment are often rated up to 10 ppm slower.
- Standard paper capacity of 520 sheets, and maximum paper capacity of 1,040 sheets. Maximum paper capacity among competitors in this segment is usually significantly less.

The KX-MB3020 also serves as a communications center, as users can send and receive documents via color scanning, Super Group 3 walkup fax, and PC fax.

Outstanding
Performance in Hands-On Testing



Panasonic KX-MB3020

"Small offices or workgroups in the need of a B/W A4 workgroup MFP should look no further than Panasonic's KX-MB250, as it's one of the few devices in its class that provides office-machine look, feel and performance, 10-minute hardware installation, minimal support requirements, elegantly simple operation and restrained but state-of-the-art software." - Terry Wirth, President, Wirth Consulting.

Imaging Technology: Electro-photographic, Laser
Functions: Print/Copy/Scan/Fax
Print Speed: 35 PPM
Suggested Retail Price: $499.00
Availability: Retail
Introduction Date: August 2009

IMAGE QUALITY - The KX-MB3020 is a monochrome desktop MFP that prints and copies in black-and-white.

STRENGTHS

- In general, the KX-MB3020 produced image quality in both print and copy modes that is suitable for the vast majority of office-imaging applications. Resolution was good, text was clear and crisp, and printed photographic output displayed smooth halftones and shading.

Imaging Technology: Electrophotographic, laser
Maximum Print Resolution: 2,400 x 1,200 dpi

TESTED IMAGE QUALITY

In order to evaluate image quality, Wirth Consulting uses:

1. The most appropriate image-quality settings.
2. ImageXpert™ Printer 600 dpi Target Version 5.1.
3. ImageXpert Test Target EP-PSv1.
4. Northlight Images UK Grayscale Linearization Test Chart.
5. Synthetic (photographic) test images derived from ISO Internal Standard 12640 Graphic Technology (Prepress Digital-Data Exchange – CYMK Standard Color Image Data [CYMK/SCID]).
6. Hammermill 100/112+ Euro Bright, 28 lb. Color Copy Paper.

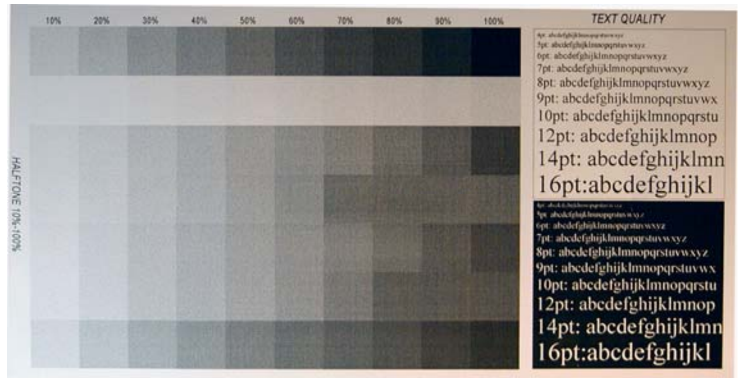


Image-quality originals used by Wirth Consulting when evaluating a device's image quality.

SYNTHETIC (CONTINUOUS-TONE) IMAGE QUALITY



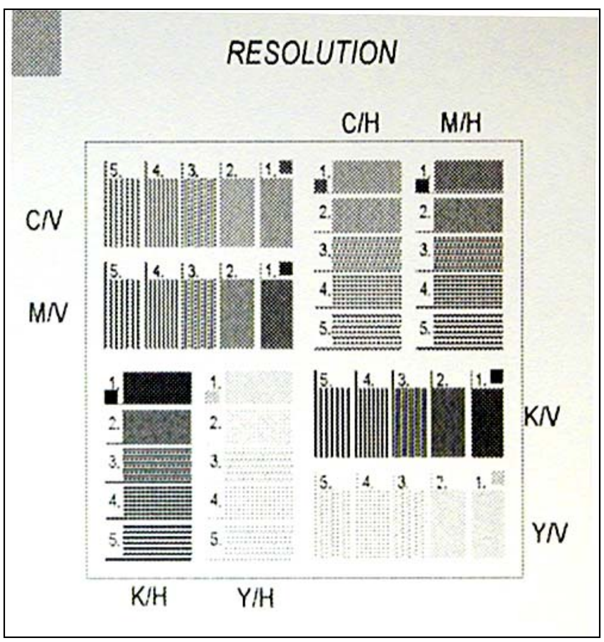
Raw (non-compressed) TIFF photo of the test target. The KX-MB3020 produced photographic images that displayed smooth halftones and shading.



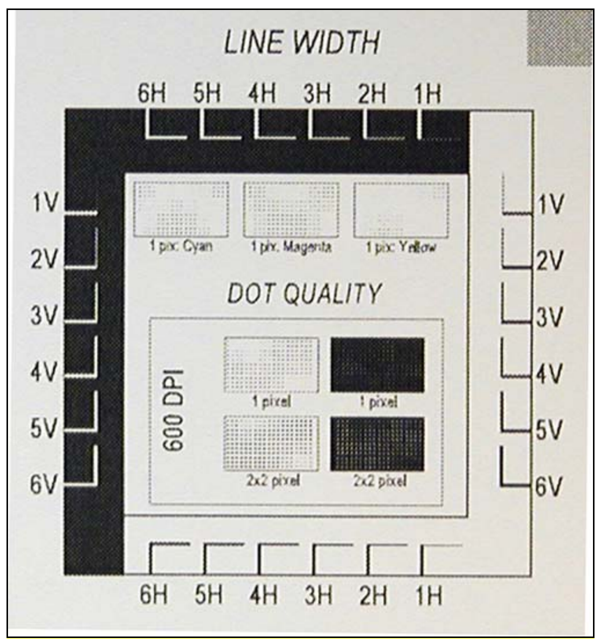
The KX-MB3020 accurately produced all halftones shades for black (top row), stepping correctly from 10 to 100% in 10% increments. The ability to produce graduated halftones shades is essential in order to produce grayscale and halftone images. The system was also able to print positive and negative text as small as 4 pt. In general, the KX-MB3020 was able to produce image quality that will be suitable for virtually all office-imaging applications.

BUSINESS-GRAPHICS PRINTER IMAGE-QUALITY SAMPLES (RAW TIFF DIGITAL PHOTO)

(ImageXpert™ Printer 600 dpi Target Version 5.1)



When printing the area of the test target that evaluates resolution, the KX-M3020 was able to produce horizontal and vertical black (K/V) fine lines as thin as 3 line pairs per millimeter. In general, the KX-M3020 was able to produce image quality that will be suitable for virtually all office-imaging applications.



The KX-MB3020 was able to produce negative lines as thin as 2 pt. and positive lines as thin as 1 pt. In the Dot (Pixel) Quality measurement, it produced 85% of pixels correctly in the 2x2 positive pixel box; 80% of pixels in the 2x2 negative pixel box; 60% of pixels in the 1x1 positive pixel box; and 80% of pixels in the 1x1 negative pixel box.

PRINTER PRODUCTIVITY – Panasonic rates the KX-MB3020 at up to 35 ppm in print mode. The system is equipped with a 10Base-T/100Base-TX Ethernet network interface.

STRENGTHS

- The KX-MB3020 achieved Panasonic's rated print speed of approximately 35 ppm in both PCL and GDI modes. As with most office-imaging systems, print speed was slower printing more complex, graphic-intensive documents.
- First Page Out Times (FPOTs) were as fast as 9.71 seconds. Overall, FPOTs were faster in GDI mode.
- The printer generated relatively small print-file sizes. Small print-file sizes mean that the printer will consume less network bandwidth, and will contribute less to network traffic.
- Standard network printing for sharing among users.
- Currently the system supports Microsoft Windows (Windows 98, Me, 2000, XP, and Vista). An Apple Macintosh GDI print driver will be available by the end of 2009, and will be available as a free download from the Panasonic.net Web site.

LIMITATIONS

- None.

PRINT FILE SIZES (MB) – PCL

Test Document	Native File Size	Print File Size
1-Page Photo	2.011	2.62
10-Page Adobe Acrobat Color	0.568	0.41
10-Page Adobe Acrobat Text	0.146	0.24
10-Page Power Point Color	3.641	4.90
10-Page B/W Word Text	0.069	0.21
10-Page B/W Word Duplex	0.069	0.21

PRINT FILE SIZES (MB) – GDI

Test Document	Native File Size	Print File Size
1-Page Photo	2.011	1.25
10-Page Adobe Acrobat Color	0.568	0.83
10-Page Adobe Acrobat Text	0.146	0.82
10-Page Power Point Color	3.641	0.97
10-Page B/W Word Text	0.069	0.82
10-Page B/W Word Duplex	0.069	0.82

Rated Print Speed :	35 ppm	Print Processor:	**
Maximum Printer Memory:	64 MB	Bluetooth Network:	No
Print Resolution:	2400x1200 dpi	PictBridge:	No
Wireless Networking:	No	USB 2.0 Port:	Yes
Ethernet Networking:	Yes*		
USB Convenience Port:	No		
Operating Systems:	MS Win 98, Me, 2000, XP, Vista		

*10Base-T/100Base-TX Ethernet network interface.
**Information not available.

TESTED PRINTING PERFORMANCE - PCL

Test Document	FPOT (sec.)	Job Time (sec.)	Print Speed PPM
1-Page Photo	40.13	40.13	1.5
10-Page Adobe Acrobat Color	15.38	33.91	29.14
10-Page Adobe Acrobat Text	13.35	28.11	36.59
10-Page Power Point Color	11.64	33.91	24.25
10-Page B/W Word Text	15.04	37.04	24.55
10-Page B/W Word Duplex	24.72	54.01	16.39

TESTED PRINTING PERFORMANCE - GDI

Test Document	FPOT (sec.)	Job Time (sec.)	Print Speed PPM
1-Page Photo	14.78	14.78	4.06
10-Page Adobe Acrobat Color	10.31	26.74	32.87
10-Page Adobe Acrobat Text	10.18	26.26	33.58
10-Page Power Point Color	9.71	30.56	25.90
10-Page B/W Word Text	9.95	31.95	24.55
10-Page B/W Word Duplex	19.11	48.40	16.39

COPIER PRODUCTIVITY – Panasonic rates the KX-MB3020 at up to 35 ppm in copy mode, and rates First Page Out Time in copy mode at 15 seconds.



The KX-MB3020's 50-sheet automatic document feeder (left) and platen glass (right).

Copy Resolution:	600x600 dpi	Flatbed Scanner:	Yes
Max. Scan Size:	A4, Legal	Flatbed Size:	8.5"x14"
Duplexing Doc Feeder:	No	Collate/Sort:	Yes
Zoom Ratios:	25-400%, 1%		

TESTED COPIER PERFORMANCE*

Test Document	FPOT (sec.)	Job Time (sec.)	Print Speed PPM
Simplex Black	13.15	28.72	34.68
Simplex Color	--	--	--
Duplex Black	19.81	46.09	20.55
Duplex Color	--	--	--
DF Speed Black	--	22.39	24.12

*Copy productivity was tested using a 10-page test original containing text and color graphics.



Frequently used copier settings are very easy to access, as they are displayed as hard keys (collate, contrast, resolution), etc., and users do not have to enter the menu system in order to access them.

STRENGTHS

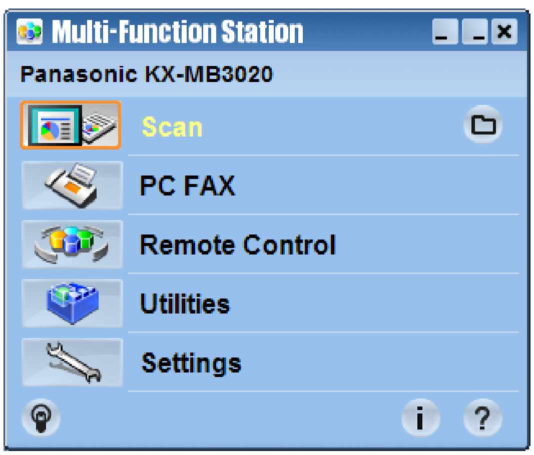
- The KX-MB3020 achieved Panasonic's rated copy speed of approximately 35 ppm (simplex). Tested copier FPOT was 13.5 seconds, which is actually faster than Panasonic's rated FPOT of 15 seconds.
- Standard 50-sheet automatic document feeder.
- Includes copier convenience features such as Quick ID (copy two-sided documents onto one page); N-Up copying (print multiple pages on one page), and poster and booklet making.

SCAN – The KX-MB3020 is equipped with color scanning via the flatbed or automatic document feeder (ADF). Users may scan and send documents to computer workstations, e-mail addresses, Multi-Function Stations software, and File Transfer Protocol (FTP) servers.

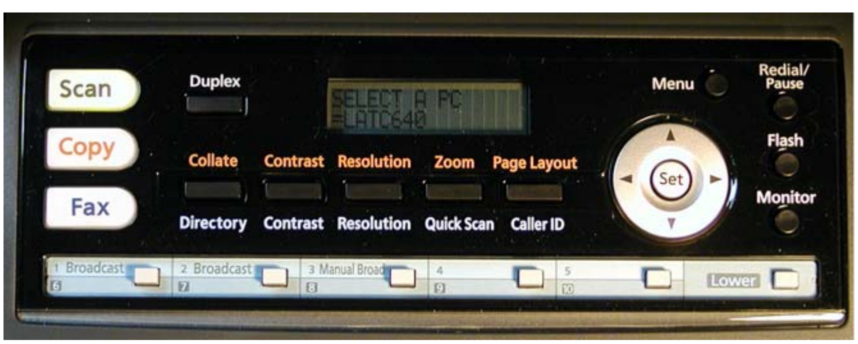
B/W and color scan resolution is as follows:

- 600 dpi x 300 dpi (automatic document feeder).
- 600 dpi x 1,200 dpi (flatbed scanner).
- 9,600 dpi x 9,600 dpi (interpolated).

Flatbed Scanner:	Yes	Scan to e-Mail:	Yes
Duplexing Auto Doc Feeder:	No	LDAP Lookup:	No
Color Resolution:	9600 x 9600 dpi	Net. Authentication:	No
Max. Scan Size:	A4, Legal	QWERTY Keypad:	No
Scan to HD Memory:	No	TWAIN Driver:	Yes
Scan to USB:	No	WIA Driver:	Yes
Scan to SMB:	No		
Scan to FTP:	Yes		
Scan to Internet Fax:	No		
Scan to URL:	No		



Panasonic's Multi-Function Station provides very easy and efficient "pull to desktop" (TWAIN) scanning.



Users can "push" scans to PC desktops by selecting the computer name from a list of local network devices shown on the LCD display.

STRENGTHS

- Color scanning, including scan to computer workstation, OCR application, e-mail addresses, and FTP sites.
- Panasonic's Multi-Function Station provides TWAIN and WIA scan drivers for "pull scanning" (initiate scanning from a computer workstation).
- Multi-Function Station software suite includes Readiris 7.0 (Full Version) OCR (optical character recognition) software for converting scanned documents into text-editable documents. This software suite also provides document-management capabilities for viewing scanned files at the computer workstation, and saving, storing, e-mailing and managing them.
- From the KX-MB3020's control panel, users may scan files directly to Multi-Function Station's OCR application or to the Document Viewer utility.
- Although this is not a touch-screen system, scanning is particularly easy compared to other systems without touch-screen interfaces. In tested network-connected mode, the process for scanning files to the Multi-Function Station software (Viewer or OCR application) is very easy. The user simply presses the Scan key, and then, using the four-directional wheel, selects either Viewer or OCR, selects desired scan settings, and presses Start. The process is very similar for scanning to file and to File Transfer Protocol (FTP) sites.
- Scanning to e-mail addresses is also easy from the control panel. After pressing the Scan key, the user selects "e-mail" in the menu shown on the LCD display. Using the directional wheel, the user selects from among registered e-mail addresses (up to 300 e-mail addresses may be registered using the Remote Control embedded Web server). Alternately, users can enter an e-mail address "on the fly" using the numeric keypad.

FAX – The KX-MB3020 incorporates Super Group 3 walkup fax and PC fax.



Selecting the fax function at the control panel.

Fax Speed:	Super 3G (33.6 Kbps)
Mem. Transmission:	150 pages
Max. Mem. Reception:	255 pages
Fax Memory:	64 MB
One-Touch Keys:	5x2
Speed-Dial Keys:	300
Resolution:	Photo/super fine/fine/standard
PC fax:	Yes
Broadcasting:	Yes

STRENGTHS

- Fully featured Super Group 3 walkup fax,
- PC fax for convenient fax send and receive at the computer workstation.

EASE OF USE – While print and copy speeds are one measure of productivity, another important part of productivity is ease-of-use. When it's difficult and time-consuming for users to make selections at the control panel or in the print driver, time is wasted, the device is "down" and not being used, and productivity is lost.

Ease of use is also especially important in small- and mid-size offices, as IT staff may be limited, or not available at all, in the event users should need help with the device.



The KX-MB3020's control panel consists of an attractive, two-line, 16-character LCD display and hard keys. On the far left are large, prominently displayed keys for selecting the main function (scan, copy, fax), while the middle of the control panel contains the LCD display and convenient hard keys for selecting most frequently used copy and fax features. On the right is a prominent Start button, as well as a numeric keypad for entering fax numbers, e-mail addresses, and number of copies.



As may be seen in the photo above, keys for three of the system's main functions, scan, copy and fax, are large and prominently displayed, so that they can be quickly located. The LCD display is clear and easy to read, and frequently used copy and fax settings are available as hard keys so that they can be quickly accessed (the user does not have to enter the menu system to access them). While some systems provide only small hard keys to navigate menu choices indicated on the LCD display, the KX-MB3020 provides an easy-to-use four-directional circular pad.

STRENGTHS

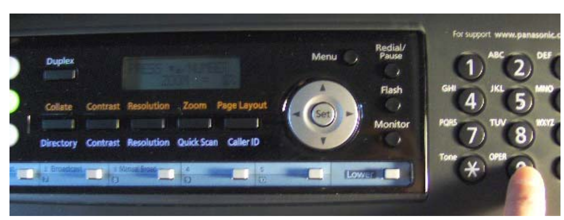
- Function keys (scan, copy, and fax) are large and prominently displayed, so that users will be able to quickly find them.
- Frequently used settings for the copy function (such as collate, zoom, contrast, resolution, etc.) and for the fax function are presented as hard keys, so that users do not have to enter the menu system in order to access them.
- Overall, the control panel is attractive and modern in design, and is one of the easiest-to-use LCD display/hard key control panels evaluated by Wirth Consulting.
- When the user presses the Stop key, printing immediately stops, unlike with some other systems, which will continue printing, wasting time and paper.

LIMITATIONS

- One minor consideration is that the LCD display has no back light. This makes it difficult to read in low-light environments. While this is not an issue for most offices, home-office users may wish to consider additional lighting provisions.



To use the fax function, the user first presses the Fax key (above), and then enters the fax telephone number using the numeric keypad (below).

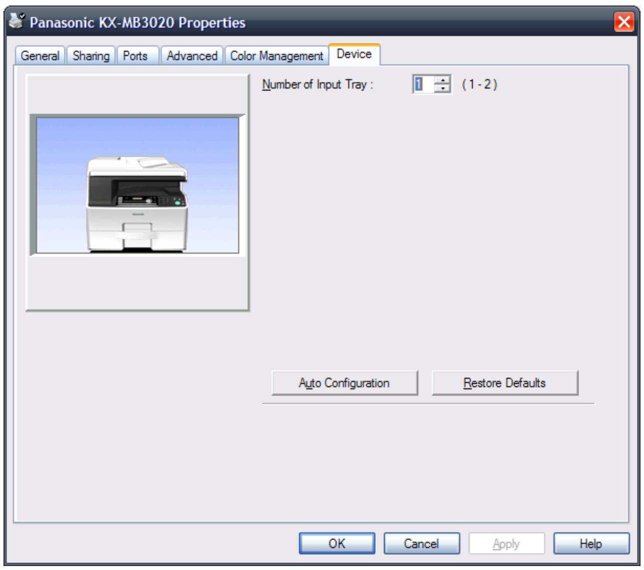


PRINT DRIVERS - The KX-MB3020 is equipped with Panasonic's Multi-Function Station software suite that automatically installs a Microsoft Windows based GDI (Graphical Device Interface) print driver (the software also includes Adobe PDF creation, optical character recognition [OCR] software, and document management for scanned files).

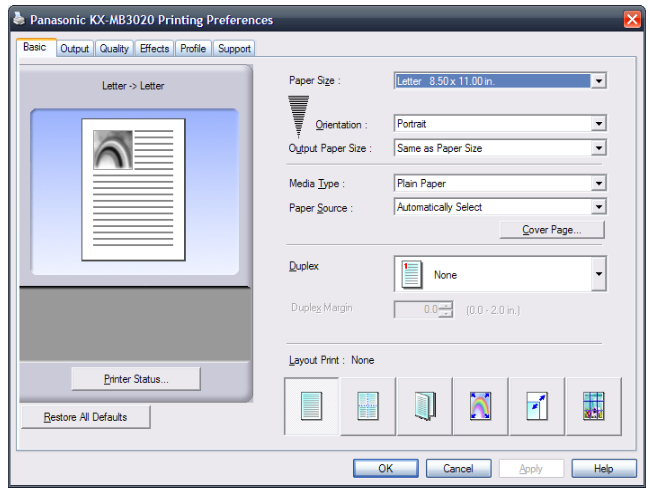
A PCL 6 print driver is included on the installation CD and must be installed using the Microsoft Windows "Add Printer" wizard.

STRENGTHS

- Both the Microsoft Windows GDI and PCL 6 print drivers have identical user interfaces, so there should be no difficulty for users switching between drivers, and they are straightforward and easy to use.
- Both print drivers display the most frequently used settings on their first tab, minimizing users have to navigate through multiple tabs to locate them.
- Print profiles (frequently used print settings) can be imported in order to maintain consistent document formatting across a workgroup or organization.

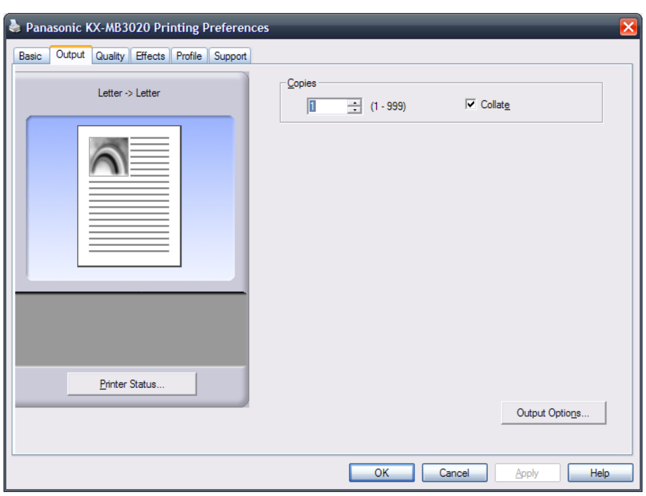


Administrators can manually specify the KX-MB3020's configuration, or select the Auto Configuration option for automatic configuration of the print driver. (Note that this feature is only available with a network configuration.)

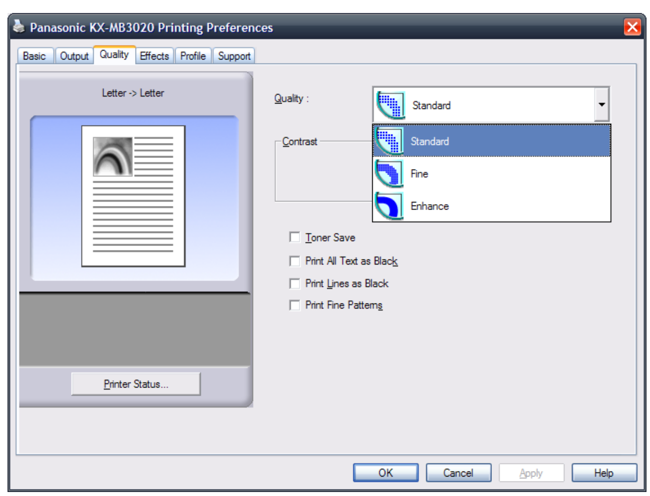


The Microsoft Windows GDI print driver consists of six tabs. The first tab conveniently displays the most frequently used settings, such as paper size, portrait/landscape orientation, simplex/duplex printing, N-Up, booklet printing, etc.

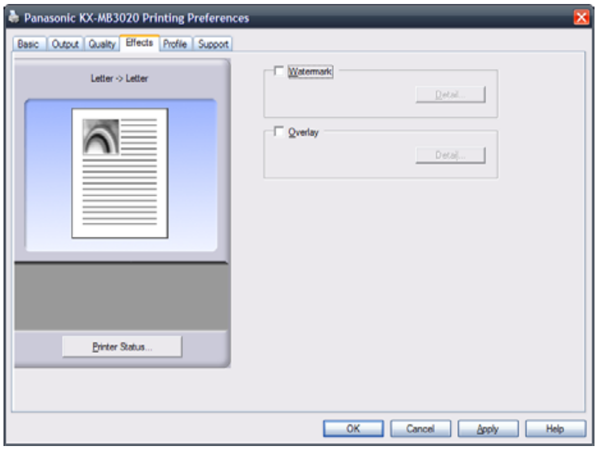
Note that when users select the Printer Status option, the Device Monitor utility, which indicates current device status, is launched, so that users can quickly see if the system is ready to print.



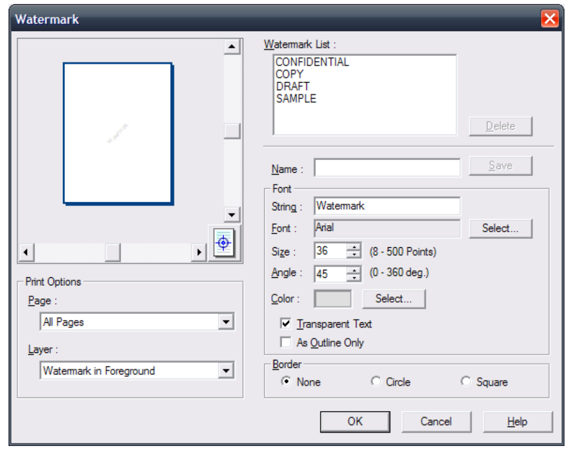
The Output tab enables users to specify number of copies, collation, etc.



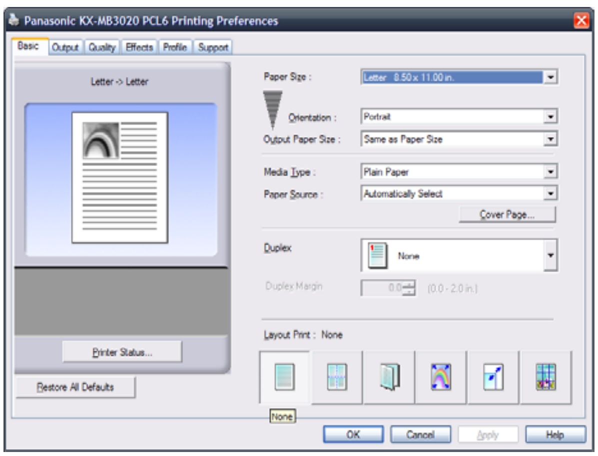
The Quality tab enables user to specify image quality (standard, fine, enhanced, etc.), and also provides a toner-save mode, so that less toner is applied to the media.



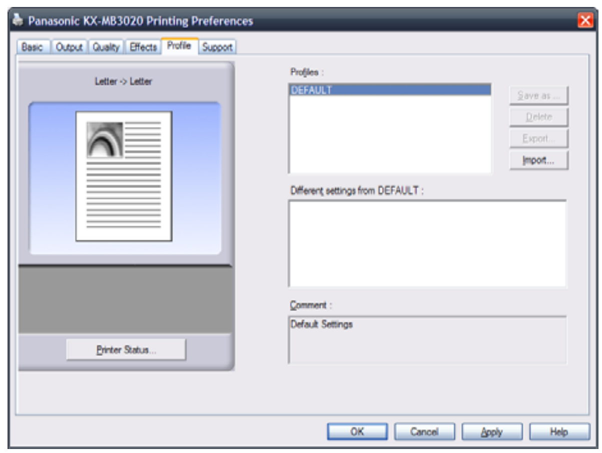
The Effects tab enables users to print watermarks on printed files (such as "confidential," "draft," etc.). Users may also print stored overlays (text and images), such as a company logo and address, on documents.



The Watermarks tab provides an option for creating and customizing watermarks. The GDI driver also includes a Profile tab; see the tab directly below for more on the Profile tab.



The PCL 6 driver has the same user interface as the GDI driver, and incorporates the same Basic, Output, Quality, Effects, Profile and Support tabs.

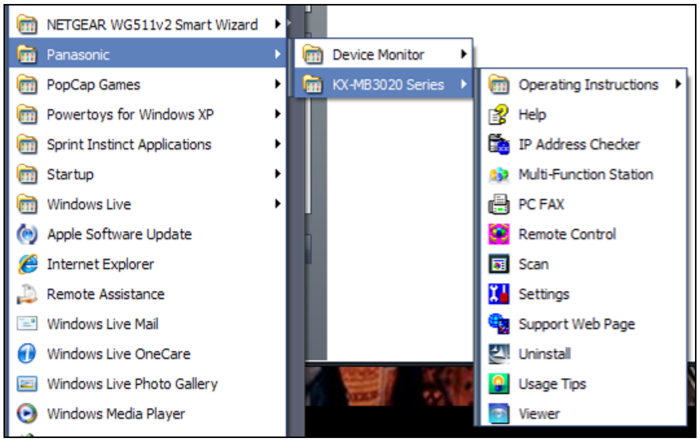


Both PCL and GDI drivers include a Profile tab that enables users to conveniently save collections of settings (such as duplex, portrait orientation, enhanced resolution, etc.). This is useful, for instance, when a company needs to ensure that all printed documents are produced in the same format and style.

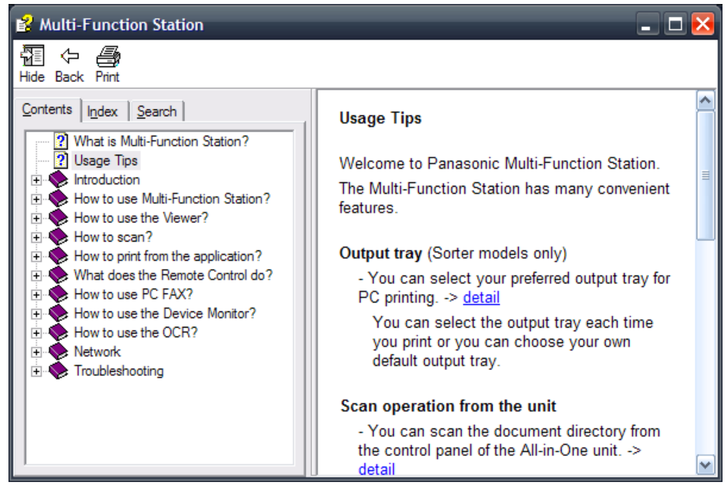
CLIENT AND NETWORK-MANAGEMENT SOFTWARE - The KX-MB3020 is equipped with Panasonic's Multi-Function Station software for OCR, viewing and managing scanned files, PC fax, etc. Also provided is Panasonic's Remote Control embedded Web server for configuring system settings from a computer workstation, and a Device Monitor utility for checking current device status and configuration.

STRENGTHS

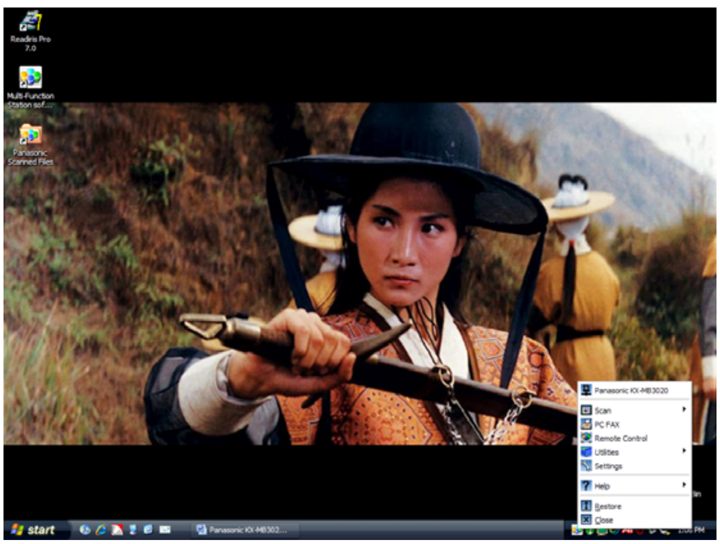
- Although there is a significant amount of software functionality, feature selection is provided in an organized and straightforward manner that will not overwhelm the end-user.
- Multi-Function Station software suite provides easy-to-use software for viewing, managing, saving and e-mailing scanned files, and for pull scanning and OCR.
- Integrated Remote Control embedded Web server is a very easy to use solution that enables administrators and IT staff to remotely check device status, and configure system and network settings.



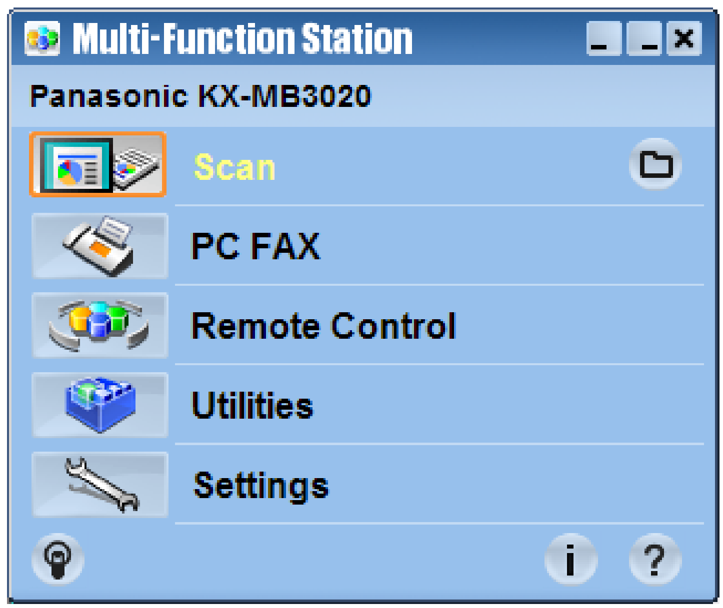
From the Microsoft Windows' Start menu, users may access Multi-Function Station software, Remote Control Web server, Document Viewer, PC fax, etc.



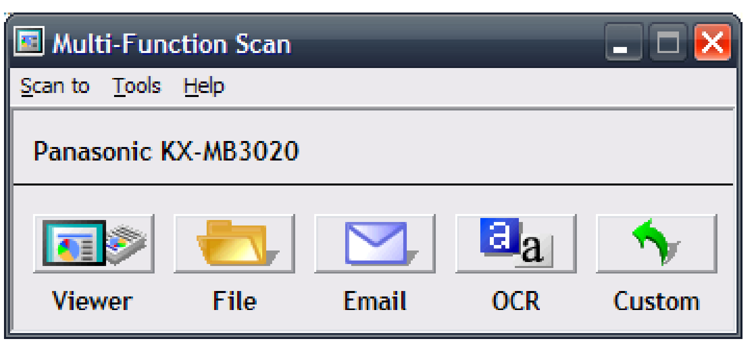
The User Guide for Multi-function Station software provides guidance for using scanning, Document Viewer, OCR software, PC fax driver, etc.



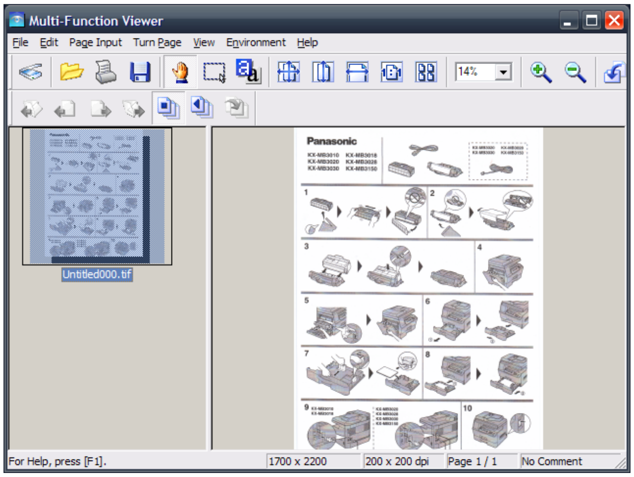
Multi-Function Station software can be minimized to the Windows' task bar on the client PC's desktop, and only needs to be active for PC Fax and scanning applications. Using Multi-Function Station, users can initiate scanning, PC fax, access Remote Control, etc. When the user "right clicks" on the task bar icon, a selection of functions appears on the screen.



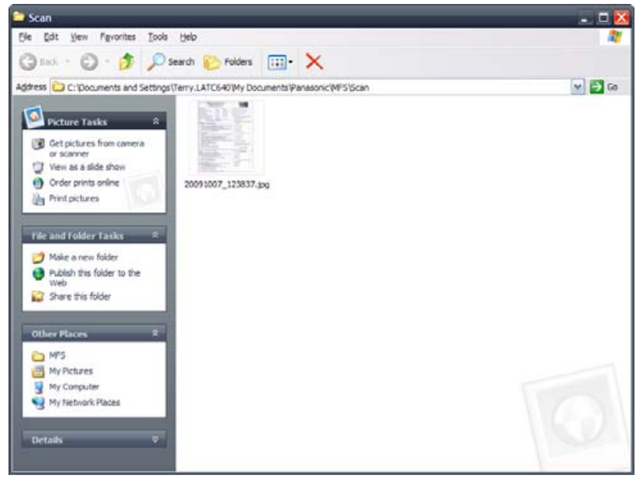
Once Multi-Function Station is launched, the user can initiate pull scanning, PC fax, access Remote Control, etc. They can either close Multi-Function Station, or minimize it to the Windows' task bar if they will be using it shortly or receiving push scans.



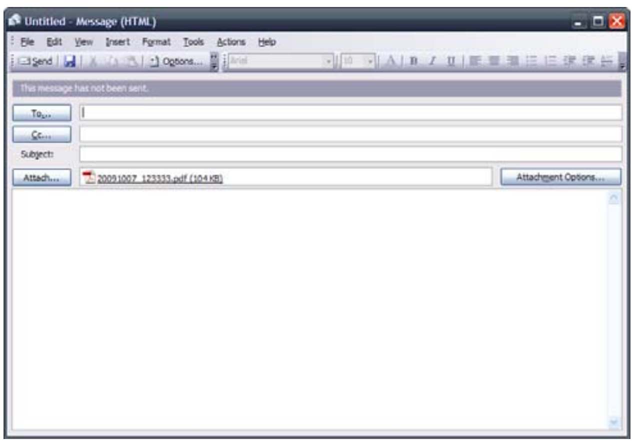
When the "Scan" button is pressed from the Multi-Function Station Main Menu, the user selects the desired scan application icon.



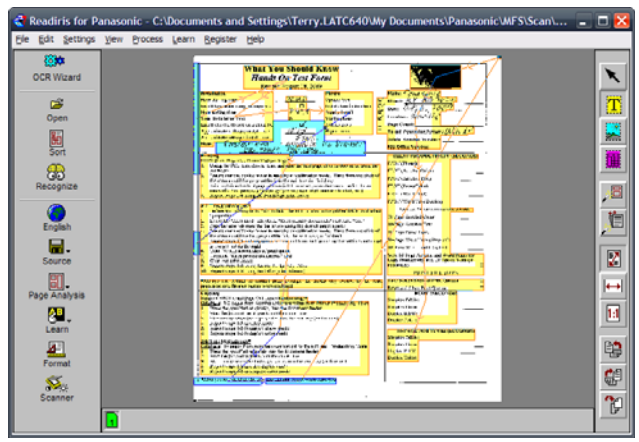
When the user selects "Viewer" from the "Multi-Function Scan" tool bar, the document is scanned and opened in Multi-Function Viewer. From here, the document can be saved to disk, sent to Readiris Pro 7 OCR, sent as an attachment to the e-mail client, or saved as a TIFF, JPEG, BMP or PDF file.



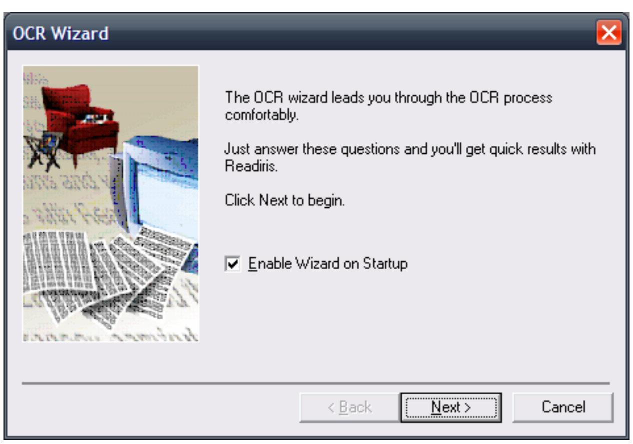
When the user selects "File" from the "Multi-Function Scan" tool bar, the scanned document is displayed in the designated scan-reception folder on the host PC.



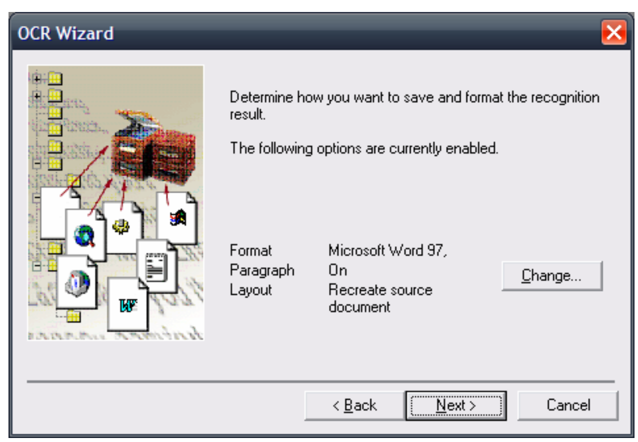
When the user selects "Email" from the "Multi-Function Scan" tool bar, the scanned document is automatically attached to the default e-mail client on the host PC.



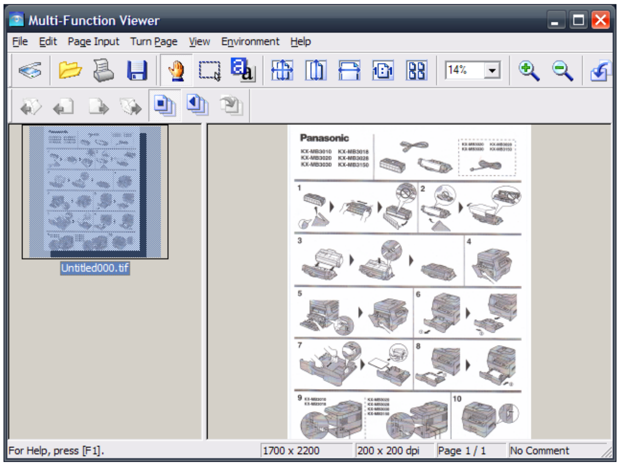
When the user selects "OCR" from the "Multi-Function Scan" tool bar, the scanned document automatically opens in the included Readiris Pro 7 OCR software so that it may be converted into a text-editable file.



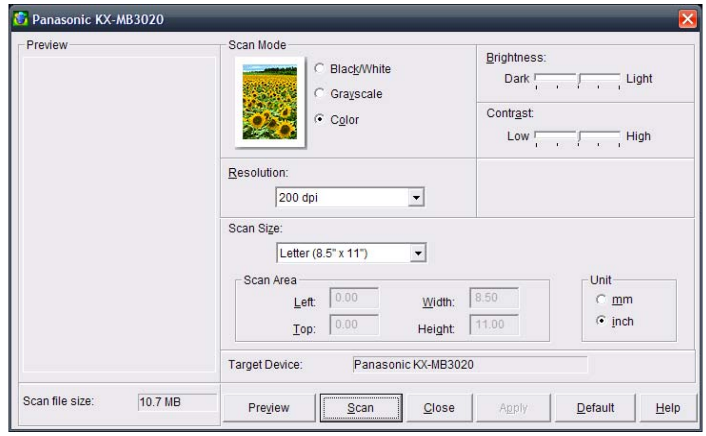
Readiris Pro 7 OCR software includes an automated utility or "wizard" for guiding users through the OCR process.



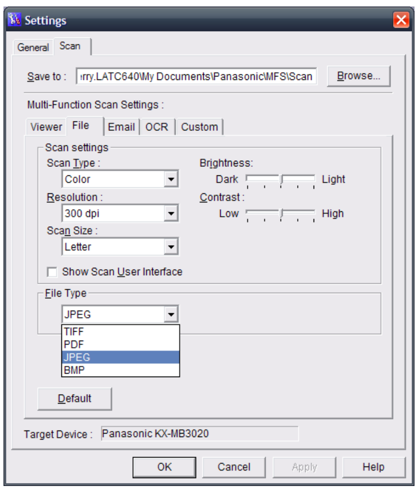
This OCR wizard guides the user step-by-step through the OCR process, so that even novice users will have no difficulty converting scanned files into editable text files.



When the user selects Custom from the Multi-Function Scan tool bar, the scanned document is automatically displayed in the Multi-Function (Document) Viewer.



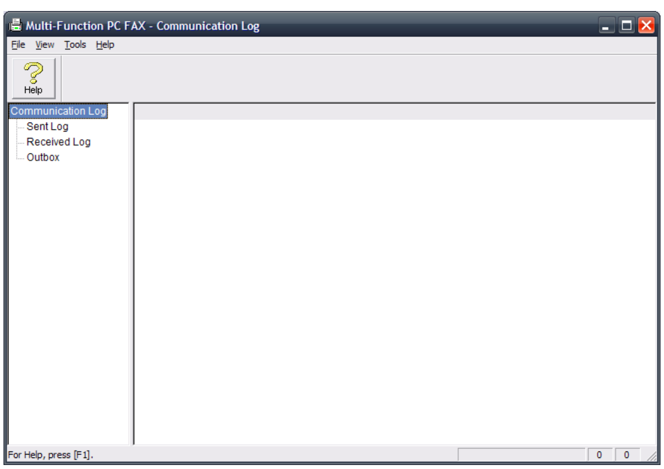
TWAIN driver settings are provided so that the user can specify that the document be scanned in color, B/W, etc., can select scanning resolution, etc.



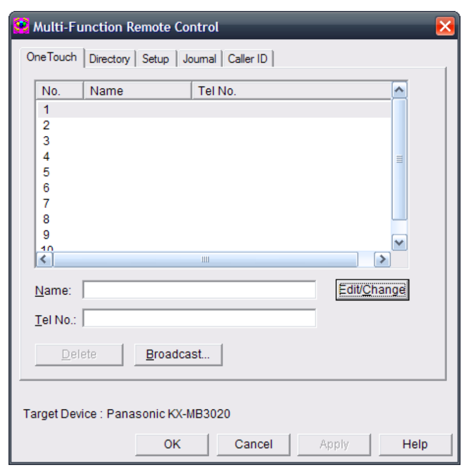
Users can configure the default scan settings such as scan resolution, file format that the scanned document will be converted into, etc.



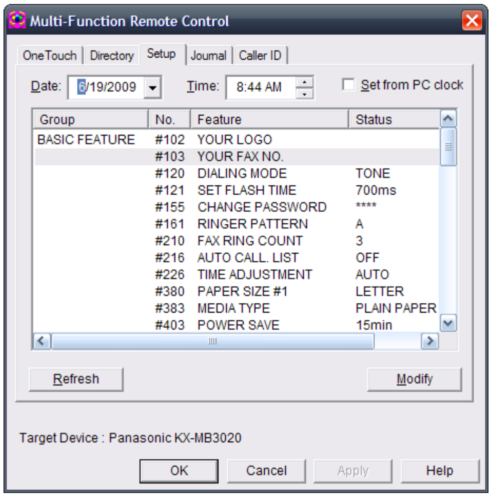
Users may also initiate scanning at the device. At the KX-MB3020's control panel, the user first presses the Scan key, then selects either "Viewer," "OCR" "Email" or "File." Next, the user selects either "Host USB," or from a list of PCs that are running Multi-Function Station on the local network. Next, the user selects any desired scanning options and then presses the Start button. The file is scanned and then sent to the selected client PC and opens in either Multi-Function Viewer, Readiris Pro 7 OCR, as an attachment to the e-mail client, or as a TIFF, JPEG, PDF, BMP file saved to a pre-designated scan-reception folder.



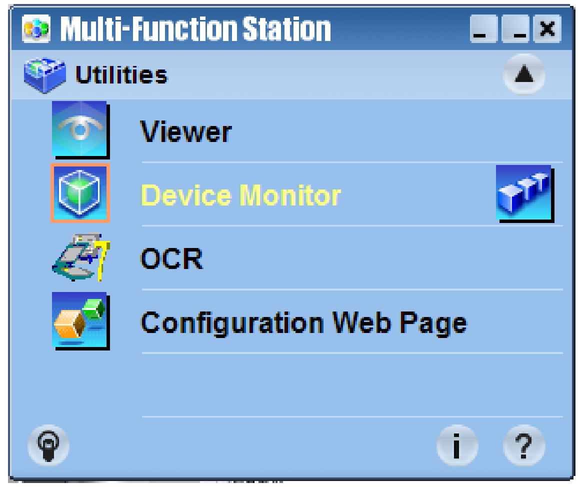
When "PC Fax" is selected from the Multi-Function Station main menu, this PC fax Communications Log launches.



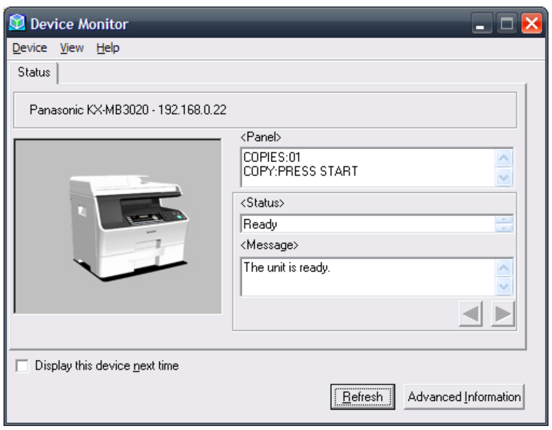
When "Remote Control" is selected from the Multi-Function Station main menu, administrators can remotely configure KX-MB3020 system settings from the convenience of their computer workstation. Users can set up one-touch keys for frequently used fax numbers.



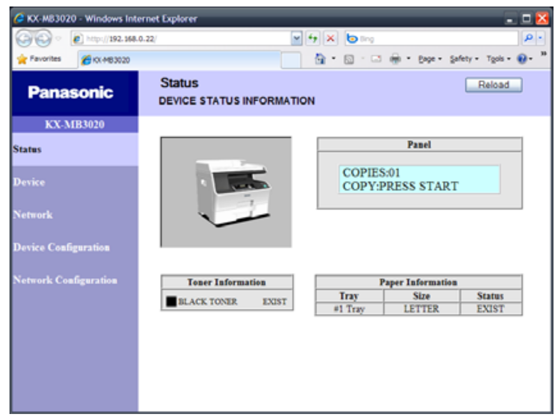
Administrators and users may also modify fax settings using Multi-Function Remote Control.



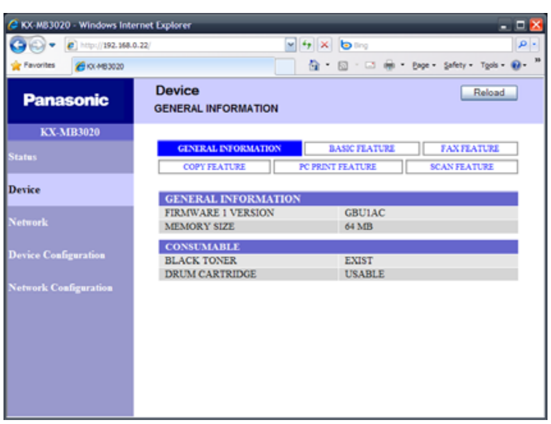
The Multi-Function Station Main Menu provides access to the Viewer, Device Monitor utility, OCR software, and Web Configuration Page.



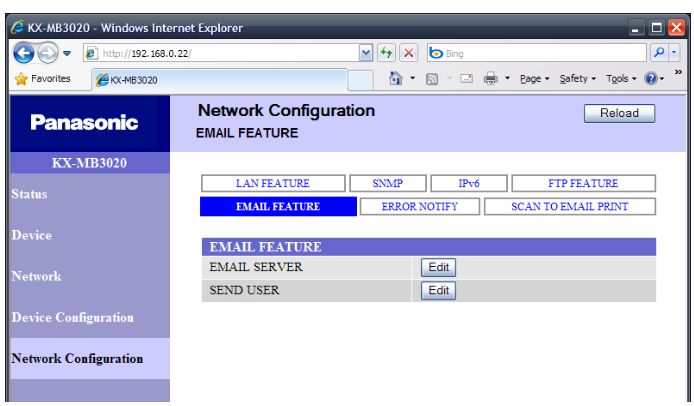
The Device Monitor utility may be accessed from the Multi-Function Station software menu, from the print driver or from the Windows' Start menu or task bar. It indicates current device status, current message displayed on the LCD panel, etc., so that users can make sure the device is operating before launching a print or scan job. Once installed, Device Monitor automatically appears when certain conditions occur, such as depleted toner or media errors.



When "Configuration Web Page" is selected from the Multi-Function Station Utility Menu, the KX-MB3020's embedded Web page opens. This option will most likely be used by administrators or an office manager in charge of the system. It also may be accessed via the Windows' Start menu or by entering the printer's Internet Protocol (IP) address in the address line of a standard Web browser. It indicates current device status, current message displayed on the LCD panel, current toner level, installed paper size, as well as network information. Users can configure device- and network-configuration settings.



The General Information tab displays installed memory, installed firmware version, and current consumables' status.



Administrators may view and configure network settings, as well as configure settings for the scan-to-e-mail server.

What You Should Know
Hands-On Test Report
Panasonic KX-MB3020

HARDWARE INSTALLATION – One of the key criteria when evaluating digital-imaging devices for small and mid-size offices is that they be easy to set up and maintain. This is especially critical in the small office, as small offices typically lack dedicated, experienced IT personnel.



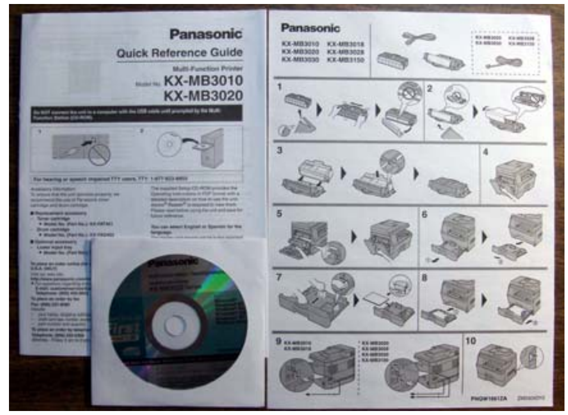
Wirth Consulting was able to unpack the KX-MB3020, consumables, and guides, and have it fully set up in just 10 minutes.



The KX-MB3020 ships with the following: starter toner cartridge (rated to yield 1,000 pages); CD-ROM containing print and scan drivers, user manual, etc.; Quick Installation guide; telephone-line cord; imaging unit; Quick Reference Guide manual; and power cord. A USB cable is not included.

Hardware-Installation Time: 10 minutes

Setting up the KX-MB3020, including removing the system from its shipping carton, and installing the toner cartridge and imaging unit, takes approximately 10 minutes. The system arrived completely assembled, with only a few strips of tape to remove, and a toner cartridge and imaging unit to install.



Panasonic includes a *Quick Reference Guide*; CD-ROM containing installation utility, print drivers, user manual, Multi-Function Station software suite, etc.; and a guide for installing consumables.

STRENGTHS

Hardware setup of the KX-MB3020 is exceptionally easy and fast, and took only about 10 minutes. This in great part is due to the fact that the system is assembled as shipped, so that, unlike with other systems, there is no need to unwrap and install a duplexing assembly, paper drawers, document feeder, etc. This also means there is much less packaging material to contend with and dispose of. In contrast, some MFPs and printers are shipped with components that must be unwrapped and correctly installed; in some cases, a screw driver may even be required to install certain components.

INSTALLATION, PRINT DRIVERS, AND CLIENT SOFTWARE - The KX-MB3020 ships with a CD-ROM that contains various software, including an automated installation wizard, print and scan drivers, and Multi-Function Station software suite.

Software-Installation Time: 10.15 minutes
Network-Installation Time: 5 seconds

STRENGTHS

The process of installing the KX-MB3020 on the network was among the easiest compared to hundreds of printers and MFPs that Wirth Consulting has installed. The process is straightforward and painless with an automated installation utility. Software installation took approximately 10 minutes, while network installation took approximately 5 seconds.



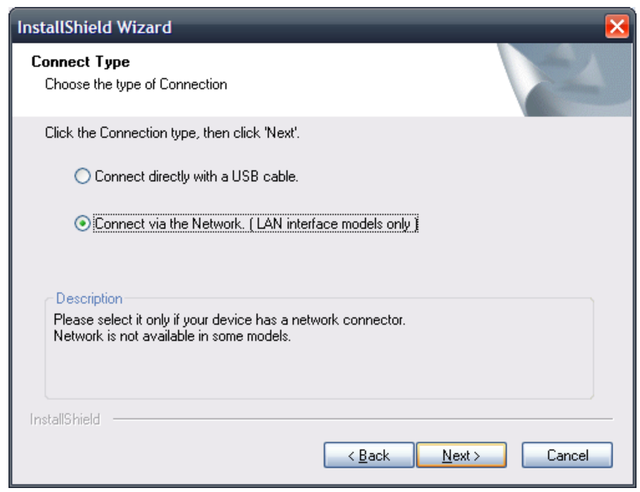
Administrators can select an "Easy Installation" or "Custom Installation." With Easy Installation, all software components are installed.



With Custom Installation, the administrator can choose which drivers and software applications to install.



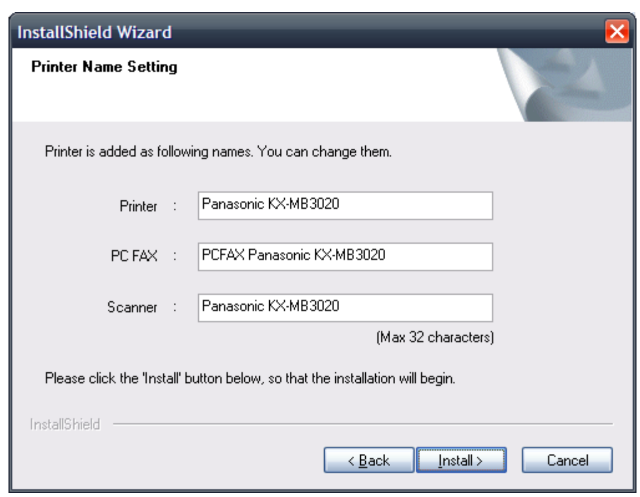
The administrator can select which software components to install by checking the appropriate box.



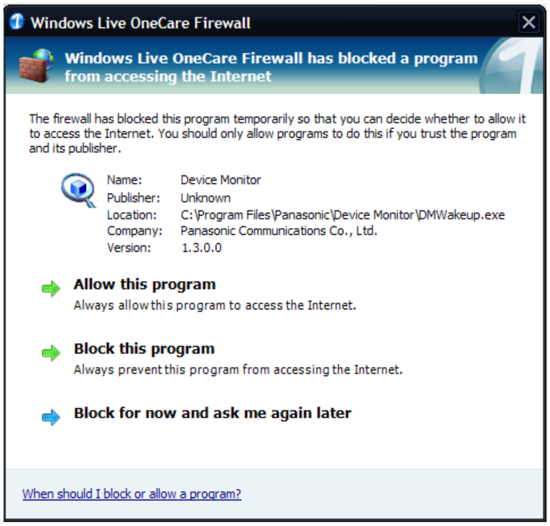
To install the KX-MB3020 on the network, the administrator selects the "Connect via the Network" option.



The next step is to select the KX-MB3020, which automatically was displayed in the window above.



The administrator selects the Install option.



This is a routine Microsoft Windows Firewall warning. If the administrator selects "Allow this program," they will not see this warning again. Unlike some other devices recently installed on our test network, no manual setup of the Firewall was necessary.



Installation is now complete. Administrators may continue to modify installed software and drivers if necessary, access tools and utilities, etc.

USER MAINTENANCE – In order to minimize downtime, it's critical that even novice users be able to quickly and correctly perform tasks such as replacing imaging supplies and paper, and removing misfeeds.

STRENGTHS

- **Replacing Imaging Supplies** – The process of installing the toner cartridge and imaging unit was among the easiest Wirth Consulting has observed, and even novice users should have no difficulty with this task.
- **Replenishing Media** – Loading paper is easy and virtually foolproof, and the paper-width guides are easy to slide into position. In the paper drawer, there are no corner separators or spring-loaded ramps to contend with.
- **Removing Misfeeds** – No misfeeds occurred in testing. Note that misfeed-access areas for the document feeder, paper path and paper drawer are easy to locate and access. Both engine misfeed-access and consumables-replacement is located in just one area (the left side of the system), which is very convenient.

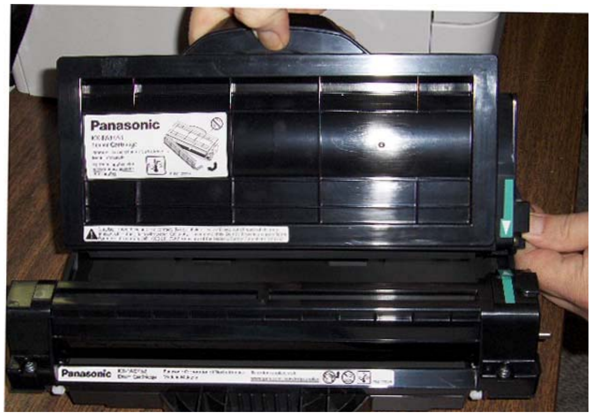
REPLACING TONER CARTRIDGE AND IMAGING UNIT




The LCD display will indicate when toner needs attention with these messages: "toner is low" and "toner is empty." To replace the toner cartridge and imaging unit, the user first removes them from their protective bags (above), and then gently shakes the toner cartridge.




The user removes the protective cover from the toner cartridge (left) and then removes the protective sheet from the imaging unit (right).

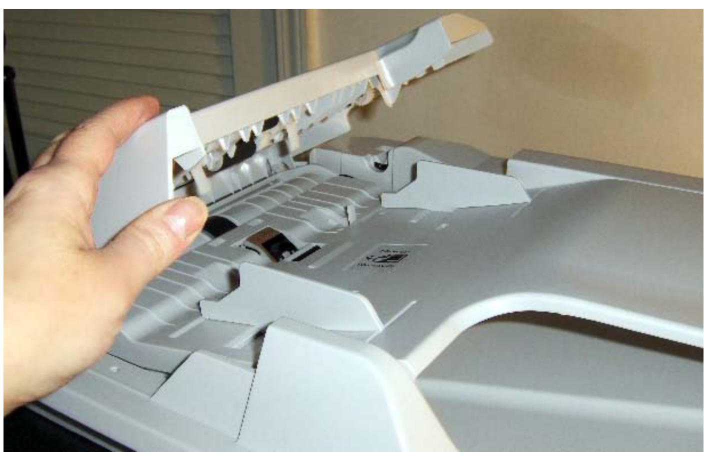


The user inserts the toner cartridge into the imaging unit, and pushes down on the toner cartridge to lock it into place. If only the toner cartridge must be replaced, the user removes the installed toner cartridge/imaging unit, detaches the toner cartridge from the imaging unit, and then attaches the new toner cartridge to the imaging unit. The user then re-installs the entire toner/imaging unit back into the system.



The user lowers the door on the system's left side in order to install or remove the toner cartridge/imaging unit. The user installs the toner cartridge/imaging unit by holding the center handle, making sure the arrows displayed are aligned, before sliding the unit into place.

MISFEED ACCESS

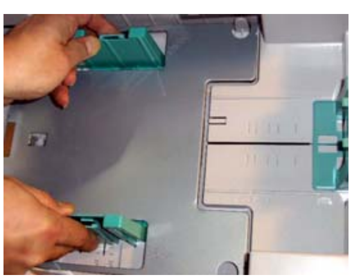


To access misfeeds that may occur in the document feeder, the user lifts up this cover.



To access misfeeds that may occur in the fuser area, the user opens the left-side door, and then presses down on the two green levers shown above, at which point they will be able to access any misfeeds.

REPLENISHING MEDIA





The KX-MB3020 is an A4 MFP that accepts up to 8.5" x 14" (legal size) media. To adjust the drawer to fit the width of the paper, the user squeezes two green guides (left), while to adjust the drawer to the paper length, the user slides one guide (right).





The KX-MB3020 incorporates a standard 520-sheet paper drawer. The drawer can be pulled completely out of the system, but is captured, so that it cannot be accidentally pulled out.

MEDIA HANDLING - The KX-MB3020 is an A4 MFP equipped with a standard 520-sheet paper capacity and standard automatic duplexing. An optional 520-sheet paper drawer may be added to expand paper capacity to 1,040 sheets.

Acceptable Paper Types	Acceptable Media Weights
• Plain paper: 75 – 90 g/m^2 (20 to 24 lb. bond) • Thin paper: 64 – 75 g/m^2 (17 to 20 lb. bond) • Thick paper: 90 – 165 g/m^2 (24 to 44 lb. bond) • Transparencies • Labels	• Simplex Mode: 17 - 44 lb. bond (64 - 165 g/m^2) • Duplex Mode: 17 - 24 lb. bond (64 - 90 g/m^2)



The KX-MB3020 features an internal media exit tray that is located beneath the scanning mechanism and above the control panel.

Max. Media Size:	8.5"x14.0"
Max. Media Weight:	44 lb. (165 g/m^2)
Std./Max Media Capacity:	520/1,040 sheets
Output Tray Capacity:	100 sheets
Auto Duplexing:	Standard

STRENGTHS

- Standard automatic duplexing, as some systems in this class do not support automatic duplexing as either standard or optional.
- Standard paper source (520-sheet paper drawer) holds a full ream (500 sheets) of media.
- Paper capacity may be expanded to 1,040 sheets. In contrast, most systems in this class provide limited maximum paper capacities of typically 500 sheets.
- The KX-MB3020 is equipped with an internal paper exit tray where printed documents are deposited. This is preferable to external paper exit trays that actually jut out from the system. An internal tray saves space, and the tray is protected.

COST PER PAGE - One of the challenges facing customers in the market for a printer or MFP is cost per page. For instance, although a device may have a low acquisition cost, high cost per page can quickly negate any savings obtained with a low purchase price.

The KX-MB3020 utilizes a KX-FAT451 toner cartridge that is rated to yield 5,000 pages, as well as a KX-FAD452 imaging unit that is rated to yield 15,000 pages. Online Web pricing for the toner cartridge is approximately $100, while online Web pricing for the imaging unit is approximately $150.

Black Toner Price/Yield*:	$100/5,000 pages
Imaging Unit Price/Yield*:	$150/15,000

*Pages at 5% area coverage.

Black Supply Cost Per Page: 3.0 cents

STRENGTHS

- Competitive B/W consumables' cost per page of 3.0 cents. A look at Wirth Consulting's database of cost per page for B/W MFPs in this segment indicates that average black cost per page is 2.1 to 3.76 cents, so that the KX-MB3020's cost per page of 3.0 cents is competitive and economical..

SPACE AND POWER CONSUMPTION – While space is typically not a major concern in larger enterprises, it is of some concern in small and mid-size businesses. On the other hand, power consumption is an important concern for all organizations, which usually seek to conserve power consumption as much as possible for both economic and environmental reasons.

SPACE REQUIREMENTS	Width	Depth	Height
Footprint (inches):	20.82	18.07	18.87
Footprint: (mm):	528.83	458.98	479.30
Required Cubic Feet:			4.11
Required Cubic Centimeters:			116.34

WEIGHT

Weight (lbs.):	49.2
Weight (Kg):	22.32

POWER REQUIREMENTS

Electrical Supply:	AC 120V, 50/60 Hz
Maximum Power Consumption:	1,150 watts*
Sleep-Mode Power Consumption:	5.5 watts



The KX-MB3020 is of average size, and at 49.2 lbs., users should be able to install it on most sturdy desktops and tables. One significant advantage is that it has just three access areas (top, front and one side), and users need not access the back of the unit.

WARRANTY - The KX-MB3020 has a standard one-year, overnight exchange warranty. The system also qualifies for Panasonic's Fax Advantage Program, under which customers may call a toll-free telephone help for assistance, and also qualify for a free refurbished replacement unit if the system qualifies for an in-warranty repair.

Standby-Mode Power Consumption: 7.5 watts
Copy-Mode Power Consumption: 600 watts
*When fuser lamp is activated.

MAINTENANCE ACCESS
Access Requirements: Front, Top and Left Side

STRENGTHS
- There are only three access points—the top, front and one side of the unit, which makes system maintenance (replacing toner, removing misfeeds) much easier.
- There is no need to access the back of the system, in order to remove misfeeds from the duplex area for instance. That means the system can be installed flush against a wall, and second.

ECO-FRIENDLY FEATURES
- Meets EPA Energy Star guidelines for energy-efficiency; sleep and standby modes of just 5.5 and 7.5 watts respectively.
- Standard automatic duplexing.

STRENGTHS
- Energy Star-certified.
- Very low power consumption in sleep and standby modes.
- Standard automatic duplexing, so paper consumption is reduced by 50 percent.
- Much less packaging material than many competitors, so customers will be contributing less to landfills.

PANASONIC ENVIRONMENTAL STATEMENTS AND GOALS

Eco Ideas

Panasonic Corporation of North America's parent company, Panasonic Corporation, recently rolled out its global Eco Ideas Strategy which will be implemented worldwide. Eco Ideas highlights the company's plans to achieve global excellence in all aspects of our environmental management activities.

The attached presentations (presentation1 and presentation2) outlines the three key initiatives the company intends to pursue. The initiatives are to reduce carbon dioxide (CO2) emissions through a combination of greener products and factories, encouraging resource conservation and promoting eco-friendly individual actions.

PANASONIC ENVIRONMENTAL GOALS AND PROGRAMS



The U.S. Environmental Protection Agency (EPA) has launched a new campaign to encourage Americans to reuse or recycle their used electronics. Panasonic has joined the Plug-In to eCycling Campaign as one of nine "Leader Level" corporate partners.

As a Leader Level partner, Panasonic will work with the EPA to help underwrite the costs associated with up to 175-200 of Agency-led and other electronics collection events nationwide during 2003. Panasonic also will provide advertising and promotion support toward the Plug-In to eCycling campaign.



RECOMMENDATION

What sets the Panasonic KX-MB3020 apart from much of its competition (the under-$500 MFP category) are a host of standard workgroup-oriented features. These include:

- Standard Ethernet networking (10Base-T/100Base-TX network interface).
- Standard automatic duplexing and standard 50-sheet automatic document feeder.
- Standard 520-sheet removable paper drawer that holds a full ream of paper. Some competitive products have either low-capacity, non-removable trays, and/or are equipped with plastic covers that must be removed before media can be added.
- Paper capacity can be expanded to 1,040 sheets. This is among the highest among competitors in this segment, as maximum paper capacity is usually limited to less than 500 sheets.
- The KX-MB3020's rated print speed of up to 35 ppm is up to 10 ppm faster than that of most competitors in this category.
- Both engine misfeed-access and consumables-replacement is on the left side of the system, which is very convenient. Some devices in this category require access to the top, back and/or front of the device in order to perform these common maintenance procedures.
- Up to 2,400 x 1,200 dpi enhanced resolution. Other laser-based MFPs in this category commonly provide a maximum resolution of 600 x 600 dpi.

Additionally, the KX-MB3020 performed very well in testing:

- Hardware setup is exceptionally easy and fast, and took only approximately 10 minutes, due in great part to the fact that the system is assembled as shipped, so that, unlike with other systems, there is no need to unwrap and install various components, such as a duplexing assembly, paper drawers, document feeder, etc.
- The process of installing the KX-MB3020 on the network was among the easiest compared to hundreds of printers and MFPs that Wirth Consulting has evaluated. The process is straightforward and painless with an automated installation utility. Software installation took approximately 10 minutes, while network installation took literally 5 seconds.
- In general, the system produced image quality that will be suitable for the vast majority of office-imaging applications.
- In testing, the KX-MB3020 achieved Panasonic's rated print speed of approximately 35 ppm in both PCL and GDI modes.
- The system produced fast First Page Out Times (FPOTs) of approximately 10 seconds when printing from commonly used software applications.
- In copy-mode testing, the KX-MB3020 also achieved Panasonic's rated copy speed of approximately 35 ppm.
- Maintenance is very easy, as the toner and imaging unit snap together into a single unit that is very easy to install. Some devices in this category feature multiple maintenance components that must be accessed from multiples access areas, making maintenance complicated and time-consuming. And, with no tray covers, spring-loaded ramps or corner separators to contend with, users can simply drop a full ream of paper into the 520-sheet paper drawer.
- We also found that the KX-MB3020s' control panel and Multi-Function Station client software were remarkably functional and easy to use.

The bottom line is that with its ease of operation and maintenance, economical operating costs, simple and effective software, and office-friendly design, Panasonic's KX-MB3020 is ideal for shared use among small- to mid-size offices and workgroups for producing B/W office documents, and as a central communications hub with its color scan, and Super Group 3 walkup and PC fax capabilities. It will also be ideal for use in home offices. Its rated print speed of up to 35 ppm is among the fastest in its class, making it an outstanding choice for low to mid-volume B/W print and copy requirements. Consequently, considering its superior feature set and excellent performance in testing, Wirth Consulting has no hesitation awarding the Panasonic KX-MB3020 its highest rating, *Outstanding*.

ABOUT WIRTH CONSULTING

Wirth Consulting was founded in order to provide independent competitive evaluations of digital-imaging equipment. Founder Terry Wirth has over 30 years of experience in the evaluation and testing of business-imaging equipment, and as former chairman and member since 1989 of the American Society for the Testing of Materials (ASTM) F05 Committee on Business Imaging Products, he has authored numerous, published ASTM test methods.

ABOUT WIRTH CONSULTING RATINGS

When Wirth Consulting rates imaging devices, it assigns the device one of the following ratings: Outstanding, Well Worth Consideration, Worth Consideration, and Not Worth Consideration.

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